

Serial No. 10/718,024

PD-990099A

REMARKSI. Introduction

In response to the Office Action dated January 27, 2006, claims 1-6 have been canceled and new claims 8-11 have been added. Claims 7-11 are in the application. Re-examination and re-consideration of the application, as amended, is requested.

II. Examiner Interview

Reference is hereby made to a telephone conversation between the Examiner and the Applicant's attorney, Georgann Grunebach on January 17, 2006, regarding a provisional election of Group II, represented by claim 7. The Applicants affirm this election.

III. The Cited References and the Subject Invention

## A. The Wiedeman Reference

U.S. Patent No. 5,303,286, issued April 12, 1994 to Wiedeman discloses a wireless telephone/satellite roaming system capable of servicing a roaming wireless telephone user includes a satellite communications system consisting of one or more orbiting satellites, each carrying a database of users, destination codes and call codes, within a satellite service area, a satellite control center, and a plurality of terrestrial communications links. The system operates by effecting communication between a terrestrial wireless telephone end user transceiver apparatus and a terrestrial communications link via a single relay through a single satellite or a succession of satellites wherein the relay station may be in motion relative to the end user transceiver apparatus and the terrestrial communications link, wherein the orbiting relay station effects the ultimate decision on linking based on stored on-board information and on-board processing, and wherein the end user transceiver apparatus, the orbiting satellite and the terrestrial communications link are operative in cooperation with the on-board database to effect hand-off from a first orbiting satellite to a second orbiting satellite. The satellite system is a single satellite or preferably a constellation of satellites orbiting near the earth, all of which are capable of receiving requests for calls and participating in the call routing and call setup on an autonomous basis.

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**B. The Diekelman Reference**

U.S. Patent No. 5,612,701, issued March 18, 1997 to Diekelman discloses a method and apparatus for allocating service beams (72, 76) to communication units (80-84) (CUs) ascertains (124) the location of a CU (81) attempting to access the communication system (30), and determines (126) whether a currently active service beam (72) is capable of providing service to the CU (81). If so, a ground position aim point (90) is determined (134), and the active service beam (72) is steered (142) to the ground position aim point (90). If not, a new service beam (76) is provided (132) to the CU (83). When a call is terminated (162), a new ground position aim point (92) is determined (168) and the service beam (72) is steered (170) to the new ground position aim point (92). If no remaining CUs are being serviced by the service beam, the service beam is deactivated is (166).

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**IV. Office Action Prior Art Rejections**

In paragraphs (7)-(8), the Office Action rejected claim 7 under 35 U.S.C. § 103(a) as unpatentable over Wiedeman, U.S. Patent No. 5,303,286 (Wiedeman) in view of Diekelman, U.S. Patent No. 5,612,701 (Diekelman). Applicant respectfully traverses this rejection.

**With Respect to Claim 1: Claim 1 recites:**

*A system for providing broadband access to a communication service to user terminals, comprising:  
a network of satellites, each satellite having:*

*at least one communication antenna for generating at least one beam cluster including a plurality of proximally disposed steerable communication beams;*

*a flexible channelizer for dynamically directing the steerable communication beams according to user terminal communication service demands; and*

*a plurality of gateway nodes, each gateway node associated with the user terminals serviced by the beam cluster, each gateway node for forwarding messages received from at least one of the user terminals serviced by the beam cluster via the network of satellites to the communication service, and for forwarding messages received from the communication service to at least one of the user terminals serviced by the beam cluster via the network of satellites.*

Even when combined, Wiedeman and Diekelman do not disclose the features of claim 1. Specifically, Wiedeman and Diekelman together do not disclose a plurality of gateway nodes, each gateway node associated with user terminals serviced by a beam cluster of steerable beams. While Wiedeman discloses communication antennae for generating a beam, it does not disclose a steerable

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beam (as the Office Action acknowledges). But it also does not disclose generating a cluster of proximally disposed communication beams. Diekelman discloses steerable beams, but again, not clustered.

The various elements of the Applicant's claimed invention together provide operational advantages over the systems disclosed in Wiedeman and Diekelman and solves problems that neither reference recognizes. For example, by providing clusters of steerable beams, the Applicant's invention provides multi-beam cluster frequency reuse, allowing users to be connected to various networks, including Internet, Intranet, and Extranet, through local gateway stations (GS). This feature is discussed in the "Summary" portion of the "Detailed Description of the Preferred Embodiment". Neither Wiedeman nor Diekelman provide the same ability.

Finally, with regard to a teaching modify Wiedeman as described in Diekelman, the Applicants respectfully point out that the Wiedeman reference is primarily directed at providing service in remote areas where there is no terrestrial cellphone service. If the antennae were directed as described in Diekelman where CUs are known to be located, the antennas would not be properly directed to receive signals from mobile users (30) disposed in the satellite service area 24 but out of GTSAs, MSAs, or RSAs. Since the satellites are used to set up such calls, this deficiency would be especially problematic.

#### V. New Claims

New claims 8-11 are presented for the first time in this Amendment. For the reasons described above, new claims 8-11 are patentable over the prior art of record, and the Applicants respectfully request the allowance of these claims as well. Claims 8-11 also recite additional features not described in the references of record and are independently patentable for those reasons.

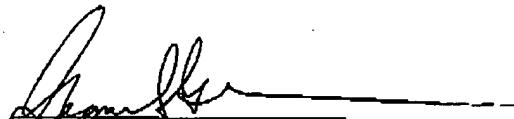
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VI. Conclusion

In view of the above, it is submitted that this application is now in good order for allowance and such allowance is respectfully solicited. Should the Examiner believe minor matters still remain that can be resolved in a telephone interview, the Examiner is urged to call Applicant's undersigned attorney.

Respectfully submitted,



Georgann S. Grunebach  
Registration No.: 33,179  
Attorney for Applicants

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The DIRECTV Group, Inc.  
RE/R08/A109  
2230 E. Imperial Highway  
P. O. Box 956  
El Segundo CA 90245-0956

Telephone No.: (310) 964-4615